

REMARKS

The present application has been reviewed in light of the Office Action dated June 8, 2010. Favorable consideration is requested in view of the foregoing amendments and the following remarks.

Status of the Claims

Claims 1-10, 12-27, 29-36, 39, 40, and 43-52 are presented for examination, of which Claims 1, 12, 23, 29, 51, and 52 are in independent form. Claims 12, 29, 39, 40, 43, and 44 have been amended and Claims 51 and 52 have been added. Applicants respectfully submit that the amendments to independent Claims 12 and 29 are supported at least by dependent Claims 20 and 35, since the features of Claims 20 and 25 are being added to Claims 12, and 29, respectively. Applicants also submit that new Claim 51 is supported by Claims 12 and 52 and new Claim 52 is supported by Claims 29 and 36, since Claim 51 comprises a combination of independent Claim 12 and dependent Claim 21, and Claim 52 comprises a combination of independent Claim 29 and dependent Claim 36. In addition, the features of the new claims and amended claims are supported by Figs. 11-17 and the accompanying disclosure, such as at pages 9, 10, 47-53, 57, 58, 61, and 62 of the original specification, and therefore, no new matter has been added. The amendments to Claims 39, 40, 43, and 44 are being made to overcome formal objections and therefore, these amendments also do not add new matter.

Formal Rejection

Claims 39, 40, 43, and 44 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The Examiner makes specific

suggestions for overcoming the rejection. In response, while not conceding the propriety of the rejection, these claims have been amended as suggested by the Examiner. Applicants submit that as amended, these claims now even more clearly satisfy 35 U.S.C. 101. Therefore, Applicants respectfully request that the rejection be withdrawn.

Allowable Subject Matter

Applicants gratefully acknowledge the allowance of Claims 1-10 and 23-27.

Substantive Rejection

The Office Action rejects Claims 12-22, 29-36, 39, 40, and 43-50 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Application Publication No. 2003/0018818 (Boliak et al.) in view of U.S. Patent No. 6,247,060 (Boucher et al.).

In response, while not conceding the propriety of the rejection, independent Claims 1, 12, 23, and 29 have been amended. Applicants submit that as amended, these claims are allowable for the following reasons.

Claim 12 relates to a method of processing compressed digital data received by a first communication apparatus connected through a communication network to a remote second communication apparatus. The method is implemented in the first communication apparatus. The method comprises receiving, generating, filling, determining, and inserting steps. The receiving step receives only a portion of a compressed digital signal present in the second apparatus and comprising a body that comprises data packets, the received portion of the compressed digital signal comprising at least one data packet. The generating step generates a derived compressed digital signal derived from the compressed digital signal present in the second apparatus in the form of a cache file, the derived

compressed digital signal comprising header data and a body and capable of containing all or part of the body of the compressed digital signal present in the second apparatus. The filling step fills the body of the derived compressed digital signal in the cache file with arbitrary data, so as to constitute a space of the same size as the body of the compressed digital signal present in the second apparatus. The determining step determines a position at which the at least one data packet of the received portion of the compressed digital signal is to be inserted into the body of the derived compressed digital signal. The position is determined as a function of the length of the header data and of at least one pointer marker previously received and inserted into the header data of the derived compressed digital signal by the first apparatus. The at least one pointer marker provides information for calculating the length of the part of the body of the derived compressed digital signal preceding the at least one data packet of the received portion of the compressed digital signal. The inserting step inserts into the body of the derived compressed digital signal the at least one data packet of the received portion of the compressed digital signal at the determined position.

Claim 12 has been amended to recite a phase of converting the derived compressed digital signal into a valid signal comprising the steps of extracting from the derived compressed digital signal the header data and received data packets, forming the header data of the valid signal from the header data extracted from the derived compressed digital signal, and concatenating the data packets extracted from the derived compressed digital signal in the body of the valid signal. Claim 12 has also been amended to recite that when one or more data packets present in the body of an original compressed digital signal in the second apparatus, from which the derived compressed digital signal is derived, are not received by the first apparatus, one or more empty packets in the body of the valid signal

are concatenated respectively in the same order of appearance as that adopted in the derived compressed digital signal.

Thus, this arrangement generates two different signals: a derived compressed digital signal derived from the compressed digital signal present in the second apparatus; and a valid signal generated by converting the derived compressed digital signal into the valid signal by extracting from the derived compressed digital signal the header data and received data packets, and forming the header data of the valid signal from the header data extracted from the derived compressed digital signal.

In contrast, the citations to Boliek et al. and Boucher et al. are not understood to disclose or suggest these two different signals. More specifically, these citations are not understood to disclose or suggest a phase of converting the derived compressed digital signal into a valid signal comprising the steps of extracts from the derived compressed digital signal the header data and received data packets, forming the header data of the valid signal from the header data extracted from the derived compressed digital signal, and concatenating the data packets extracted from the derived compressed digital signal in the body of the valid signal, and when one or more data packets present in the body of an original compressed digital signal in the second apparatus, from which the derived compressed digital signal is derived, are not received by the first apparatus, concatenating respectively one or more empty packets in the body of the valid signal in the same order of appearance as that adopted in the derived compressed digital signal, as recited by amended Claim 12.

The Office Action cites paragraph [0042] of the Boliek et al. citation as disclosing the claimed extracting step. However, paragraph [0042] is understood to merely deal with the determination of the byte requests which are necessary to receive data based on what is

already buffered at the client. More specifically, this paragraph is understood to explain a) that the client determines which packets it needs and which packets it already has in order to generate a request for the packets it still needs, and b) the client initially begins with no packets and then as more requests are made, and as described in further detail below, the client retains packets of the codestream and stores them in a manner that provides to the client easy access to the previously requested and obtained packets. Thus, this paragraph is understood to deal with the generation of request with a view to obtaining selected data, taking into account data already stored at the client. As a result, Applicants can find nothing in this paragraph relating to a phase of converting a derived compressed digital signal into a valid signal by extracting from the derived compressed digital signal the header data and received data packet, as recited by amended Claim 12, as can be verified by examining paragraph [0042]:

[0042] Next, processing logic selects the data of the JPEG 2000 codestream that corresponds to these image characteristics (processing block 302), and determines what byte requests are necessary to receive this data based on what is already buffered at the client (processing block 303). The client determines which packets it needs and which packets it already has in order to generate a request for the packets it still needs. The client initially begins with no packets and then as more requests are made, and as described in further detail below, the client retains packets of the codestream and stores them in a manner that provides the client easy access to the previously requested and obtained packets. In one embodiment, the client only retains packets for one type of interactive session. In one embodiment, this is performed using a data structure described below. However, this could be performed in a number of ways.

The Office Action cites paragraph [0050] of the Boliek et al. citation as disclosing the claimed forming step of forming the header data of the valid signal from the header data extracted from the derived compressed digital signal. However, paragraph [0050] is understood to merely disclose that the decoder is able to handle codestreams that are not in

order and that may be spread out in storage and that the header may indicate the location of each of the necessary parts spread out through the memory, preferably through the use of pointers. Applicants can find nothing in this paragraph relating to a phase of converting a derived compressed digital signal into a valid signal by forming the header data of the valid compressed digital signal from the header data extracted from the generated derived compressed digital signal, as recited by amended Claim 12, as can be verified by examining paragraph [0050]:

[0050] In an alternative embodiment, the decoder is an enhanced decoder that is able to handle codestreams that are not in order and that may be spread out in storage. In such a case, the headers may indicate the location of each of the necessary parts spread out through the memory, preferably through the use of pointers.

The Office Action cites paragraph [0045] of the Boliek et al. citation as disclosing the claimed step of concatenating the data packets extracted from the derived compressed digital signal in the body of the valid signal. However, paragraph [0045] is understood to merely disclose that received data are put in a signal that is generated at the client, which, page 5 of the Office Action appears to indicate corresponds to the claimed derived compressed digital signal derived from the compressed digital signal present in the second communication apparatus. As a result, this paragraph is understood to deal only with the integration of the received data with the previously buffered data in the generated derived compressed digital signal and is not understood to address the generation of a valid compressed digital, as recited by amended Claim 12, that is by extracting data packets and header data from the generated derived compressed signal and concatenating these extracted data packets in the body of the valid compressed digital signal.

[0045] Processing logic integrates the received data, which is sent in encoded format, with the previously buffered data to create a correct JPEG 2000 codestream (processing block 305). In one

embodiment, the packets are put in the order they appear in the original codestream.

The Office Action cites paragraph [0042] and [0043] of the Boliek et al. citation as disclosing that when one or more data packets present in the body of an original compressed digital signal in the second apparatus, from which the derived compressed digital signal is derived, are not received by the first apparatus, concatenating respectively one or more empty packets in the body of the valid signal in the same order of appearance as that adopted in the derived compressed digital signal, as recited by amended Claim 12. However, Applicants can find nothing in paragraph [0042] addressing the concatenation of one or more empty packets in the body of the valid compressed digital signal in the same order of appearance as that adopted in the generated derived compressed digital signal. More specifically, as is implied on page 5 of the Office Action, paragraph [0042] relates to the generation of a derived compressed digital signal in the first communication apparatus (client) derived from the compressed digital signal present in the second communication apparatus. As a result, there is not understood to be any disclosure in this paragraph of the body of a valid compressed digital signal, which is produced by converting the derived compressed digital signal in the first apparatus, the derived compressed digital signal being derived from a compressed digital signal in the second apparatus, as recited by amended Claim 12. Further, Applicants can find no disclosure in paragraph [0042] of concatenating one or more empty packets in case when one or more data packets present in the body of the original compressed digital signal in the second apparatus, from which the derived compressed digital signal is derived, are not received by the first apparatus. Rather, paragraph [0042] is understood to disclose that the client requests the packets it needs, while storing the packets it already received. As to paragraph [0043], this paragraph is

understood to merely disclose that the client requests the needed data by specifying either the starting point of the memory location at which the data is stored and the range of the amount of data that is requested or the starting and ending points of the memory locations storing the desired data:

[0043] Using this information, processing logic issues byte range requests to the server (processing block 304). In one embodiment, the client specifies the data of the JPEG 2000 codestream that is needed by sending the starting point of the memory location at which the data is stored and the range of the amount of data that is requested. In an alternative embodiment, the starting and ending points of the memory locations storing the desired data are sent in the request.

Since amended Claim 12 is understood to recite at least four features (relating to the converting of the derived compressed digital signal to a valid signal) not disclosed or suggested by the citations to Boliek et al. and Boucher et al., Applicants respectfully submit that the Office has not yet satisfied its burden of proof to establish a prima facie case of obviousness against amended Claim 12. Therefore, Applicants respectfully request that the rejection of amended Claim 12 be withdrawn. And because corresponding device Claim 29 has been amended in a similar manner, it is allowable for similar reasons. Therefore, Applicants respectfully request that the rejection of amended Claim 29 be withdrawn.

New Claims

New independent Claim 51 recites the same receiving, generating, filling, determining, and inserting steps as Claim 12. In addition, Claim 50 recites the steps of going through the data contained in the body of the derived compressed digital signal, converting, when the data gone through does not correspond to a data packet received from the second apparatus, the space filled by the data concerned into an empty packet, and

shifting in an adapted manner the data comprising the remainder of the body of the derived compressed digital signal.

The Office Action cites paragraph [0042] of the Boliek et al. citation as disclosing the claimed data-going-through step and the claimed converting step and paragraph [0050] as disclosing the claimed shifting step. However, paragraph [0042] is understood to address the requesting of data packets which are necessary for the client and storing the packets already stored in order to make an easy access for the future. Applicants can find no mention in this paragraph of an empty packet or of converting space filled by data not corresponding to a data packet received from the second apparatus into an empty packet. Moreover, Applicants note that the phrase “empty packets” has a specific meaning according to the compression format, e.g. JPEG 2000, and such packets and such a compression format is not understood to be mentioned in paragraph [0042]. As to the claimed shifting step, as noted above, paragraph [0050] is understood to merely disclose how to handle codestreams that are not in order and that may be spread out in storage. Applicants can find no shifting, as recited in new Claim 51, in this paragraph.

For these reasons, Applicants submit that Claim 51 is allowable over the citations to Boliek et al. and Boucher et al. And since Claim 52 is a corresponding device claim, it is submitted to be allowable over these citations for corresponding reasons.

The other rejected claims in this application depend from one or another of the independent claims discussed above and, therefore, are submitted to be patentable for at least the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, individual consideration or reconsideration, as the case may be, of the patentability of each claim on its own merits is respectfully requested.

Conclusion

In view of the foregoing amendments and remarks, the application is now in allowable form. Therefore, early passage to issue is respectfully solicited.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,

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